

Cloud Storage Gateway for Industry Data Base

Rakesh Chandra Verma Asst. Professor IMT, e-mail-rcvranchi5@yahoo.co.in

Ph.No-09990167181

Ram Babu DBA, e-mail-singh.rambabu@gmail.com

Ph.No:--+14258182289

Nirmal Lodhi Reserch Scholer, e-mail-singh.rambabu@gmail.com

Ph.No:--+14258182289

Rajesh Pandey Programmer, e-mail- rajesh.fbd@gmail.com

Ph.No:-09899160633

ABSTRACT:-

In the present time cloud storage gateway are important to the Industry. These appliances are growing in popularity and with clear indicators that the cloud storage space is growing. Object base storage has lack of standardized cloud storage application programming interfaces (APIs) means customers will have to deploy cloud storage gateways as the protocol translators to avoid the arduous task of rewriting applications to support web service interfaces. The primary use of cloud storage today is for unstructured data, which is the fastest growing and most voluminous content, causing the most administrative pains. Cloud storage is less suitable for structured data, which continues to live on traditional enterprise data storage.

Keyword: - Cloud Storage, Public Cloud, Private Cloud, Object Base Storage, Gateway

INTRODUCTION:-

THE benefits of using cloud storage technology for unstructured data are compelling, starting with lower overall storage costs. Being service based, there's no storage hardware to buy, manage and maintain, and depending on the service, it can greatly reduce, if not eliminate, data center and storage administrator costs. Cloud storage eliminates expensive technology refreshes that usually kick in three years to five years after the initial purchase, needed to either get state-of-the-art technology or simply to get around purchasing expensive support contracts for older arrays.

The technology can provide close to 100% storage utilization by eliminating the massive amounts of unused storage that are needed with traditional data storage for anticipated growth and peak loads. Besides the overall cost savings, scalability of cloud storage and its ability to transparently support base and peak loads are its most appealing characteristics.

PUBLIC CLOUD STORAGE:-

Public cloud storage services are a cloud storage option offered by a fast growing list of service providers their storage infrastructure usually consists of low-cost storage nodes with directly attached commodity drives with an object-based storage stack that manages the distribution of content across nodes. Data in the cloud is typically accessed via Internet protocols, mostly Representational State Transfer (REST) and to a lesser degree Simple Object Access

Protocol (SOAP). Resilience and redundancy is achieved by storing each object on at least two nodes. Usage is charged on a dollar-per-gigabyte-per-month basis and, depending on the service provider, there may be additional fees for the amount of data transferred and access charges.

Public cloud storage is designed for massive multi-tenancy that enables isolation of data, access and security for each client. The type of content stored on public clouds ranges from static non-core application data and archived content that needs to be available, to backup and disaster recovery data. Public cloud storage isn't suited for active content that changes all the time. The primary concern of using public cloud storage in the enterprise is security and, to some extent, performance.

INTERNAL OR PRIVATE CLOUD STORAGE:-

Internal or private cloud storage runs on dedicated infrastructure in the data center and, as a result, addresses the two main concerns of security and performance, but otherwise offers the same benefits of public cloud storage. Internal storage clouds are usually for a single tenant, even though larger enterprises may use multi-tenancy features to segregate access by departments or office locations. Unlike their public cloud storage counterparts, scalability requirements are more modest, so internal cloud storage offerings are more likely to have traditional storage hardware under the hood.

HYBRID CLOUD STORAGE:-

Users who have a hybrid cloud storage environment manage resources both externally and in-house. Because hybrid cloud scenarios often provide an on-site appliance, they can provide local cache and memory, data duplication and encryption for an IT shop's data.

However, a hybrid cloud solution must meet certain key requirements to make hybrid cloud storage work. They must behave like homogeneous storage, be virtually transparent and have mechanisms in place that keep active and frequently used data on-site while simultaneously moving inactive data to the cloud. These types of clouds also depend on policy engines to define when specific data gets moved into -- or pulled out -- of the cloud. For more on hybrid storage clouds, check out our tip on hybrid cloud implementation.

OBJECT BASE STORAGE IN CLOUD:-

Object-based storage is considered a leading emerging technology, and many of its features are deemed ideal for cloud storage. However, drawbacks such as lack of standardization and performance limitations often relegate object storage to archiving and backup, and even then it can only be used with cloud gateways.

Benefits of object storage include massive scalability, geographic independence, multi-tenant features and the ability to use off-the-shelf hardware. Disadvantages include poor IOPS and high latency, but it's important to keep in mind that each vendor's technology is proprietary. These shortcomings make object-based storage less useful for primary storage.

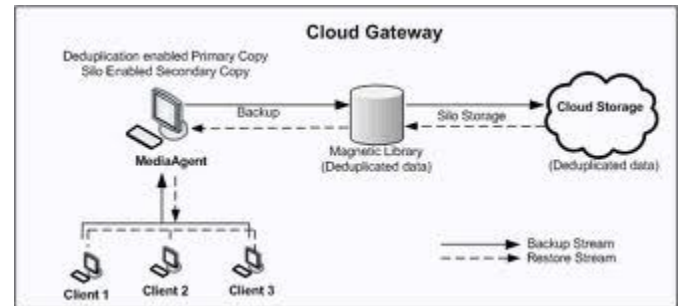
CLOUD STORAGE GATEWAY:-

A cloud storage gateway is a hardware- or software-based appliance located on the customer premises that serves as a bridge between local applications and remote cloud-based storage. The products are sometimes called cloud storage appliances or cloud storage controllers.

The need for a bridge between cloud storage systems and enterprise applications arose because of an incompatibility between public cloud technologies and legacy applications. Most public cloud providers rely on Internet protocols, usually a REST API over HTTP, rather than a conventional storage area network (SAN) or network-attached storage (NAS) protocol that method is useful for programmers creating new applications but not compatible with legacy systems.

A cloud storage gateway provides basic protocol translation and simple connectivity to allow the incompatible technologies to communicate transparently. The gateway can make cloud storage appear to be a NAS filer, a block storage array, a backup target or even an

extension of the application itself. Local storage is generally used as a cache for improved performance.



Cloud gateway product features include:

- Encryption technology to safeguard data.
- Compression. Duplication.
- WAN optimization for faster performance.
- Snapshots.
- Version control.
- Data protection.

CLOUD GATEWAY FOR INDUSTRY:-

1) HIGHER FLEXIBILITY PAIRED WITH LOWER COSTS

- The most potent advantage that cloud storage gateways offer is their high level of flexibility. Gateways can connect with a wide variety of cloud storage services and this is good because it leads to increased competition among these services. Increased competition means that customers of these services benefit from those services trying to sweeten their offers with lower priced plans, additional features and so forth. These gateways can often connect with public or private clouds, as well as hybrid clouds in some instances.
- Flexibility likes this also safeguards the business. You can choose which cloud storage service you want to do business with and make a switch if you find the service you get to be inadequate, too slow or too costly. That's important because businesses need to be able to move quickly and with ease if they want to maintain their competitive edge.
- Competition leads to lower costs for storage space itself, but there are other ways that cloud storage gateways help businesses save money

2) EASY TO USE SOLUTIONS THAT CAN BE SET UP QUICKLY:-

With some backup solutions, in order to really take advantage of the cloud storage capacity possible, additional upgrades to a company's hardware and software will need

to be made, but this is not required with a cloud storage gateway. Installing new software and paying even more licensing fees is also not part of the picture. While this saves costs, what it really saves is time and effort.

ACKNOWLEDGMENT:- I am Thankful to my Guide Dr.(Prof) A.K.Yadav .

References:-

1. GigaOm, Show Me the Gateway — Taking Storage to the Cloud, By Gary Orenstein. 22 June 2010 [1]
2. Boles, Jeff. Cloud file storage pros and cons. 15 March 2011
3. Stanley Zaffos, Adam W. Couture. Hybrid Cloud Gateway Appliances Expand Cloud Storage Use Cases. Gartner Group Research G00209453. 10 January 2011
4. Sliwa, Carol. New hybrid cloud storage appliances attract attention for primary data. May 2011.
5. F. Schmidt, The SCSI Bus and IDE Interface: Protocols, Applications and Programming, 1997 :Addison-Wesley
6. Fibre Channel-Arbitrated Loop (FC-AL), 1995
7. D. H. C. Du, "Two Emerging Serial Storage Interfaces for Supporting Digital Libraries: Serial Storage Architecture (SSA) and Fibre Channel-Arbitrated Loop (FC-AL)", Multimedia Tools and Apps., vol. 10, pp.179 -203 2000 [CrossRef]
8. S.-Y. Tang, Y.-P. Lu, and D. H. C. Du, "Performance Study of Software-Based iSCSI Security", 1st Int'l. IEEE Security in Storage Wksp., 2002
Abstract | Full Text: PDF (353KB)
9. Ethereal Network Analyzer, [online] Available:

<item><http://www.ethereal.com></item>